

Work Order ID 131197-1

Tuesday, April 14, 2015 2:33:11 PM

131197

Page 1

Item ID: D412-702-345

Accept

N900040100

Setup Start

NS1

Revision ID:

Item Name: Shoulder Harness, 3-Point Att., Inertia Reel Continuous Belt, 4 Man Aft

Stop

NS2

Start Date: 3/30/15

Start Qty: 2.00

2

Cust Item ID:

Required Date: 3/30/15

Req'd Qty: 2.00

2

Customer:

Reference:

Approvals:

Process Plan:

Date: 15-4-14

Tooling:

Date:

Run Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
DSI9511	A								
100	Document Control	0.00							
100	DOCUMENT CONTROL								
DC	Memo	0.00							
Doc.Control -USB or Paperwork	Photocopy bluefile & type labels per PPP D412-702-345 CHG001								
110	Pick Kit	0.00							
110									
Packaging	Memo	0.00							
Packaging									
120	QC4- 100% Inspect kits for completeness	0.00							
120									
QC	Memo	0.00							
Quality Control									

16 April

Split-1

MA

SL

IX

DAS
28
9-89

APR 15 2015

APR 14 2015

DAS
6
9-89

DAS
27
5-89

IX

DAS
28
9-89

APR 15 2015

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td style="border: none;"></td> </tr> </table>					Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
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Date :	Step #:	QTY Effective :			MRB (QSI042) Approval																	
Description Work Order Deviation		Disposition			Completed By																	
					Lead hand / Supervisor Approval Verification																	
					QC / QA Coordinator Approval																	
Root Cause		FAULT CATEGORY																				
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐																	
OTHER : _____																						

Work Order ID 131197

Tuesday, April 14, 2015 2:33:11 PM

131197

Page 2

Item ID: D412-702-345

Accept

N900040100

Setup Start *NS1*

Revision ID:

Stop *NS2*

Item Name: Shoulder Harness, 3-Point Att., Inertia Reel Continuous Belt, 4 Man Aft

Start Date: 3/30/15 Start Qty: 2.00 *2*

Cust Item ID:

Required Date: 3/30/15 Req'd Qty: 2.00 *2*

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start *NR1*
Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130	Packaging	0.00				/			
130									
Packaging	Memo	0.00							
Packaging	Identify and pack for shipping as per PPP D412-702-345								
	Location: 629								
	PPP Rev: _____								
140	QC21- Final Inspection - Work Order Release	0.00							
140									
QC	Memo	0.00							
Quality Control									

APR 15 2015

MJS 15-04-15
MJS 15-04-15

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width: 100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td></td> </tr> </table>				Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
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Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐																
OTHER : _____																					

Picklist Print

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Page 1

Work Order ID: 131197

131197

Parent Item: D412-702-345

D412-702-345

Parent Item Name: Shoulder Harness, 3-Point Att., Inertia Reel Continuous Belt, 4 Man Aft

Start Date: 3/30/15

Required Date: 3/30/15

Start Qty: 2.00

Required Qty: 2.00

Comments: IPP Rev:A new issue DD 10.04.30 verified:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

D412-702-311

Manufactured

No

110

Each

2.0000

1

2

**

DAS

6

9-89

DAS

27

9-89

D412-702-311

Harness Assembly

DAS

28

9-89

Location

Loc Qty

Loc Code

ST468

1

127886

1

ST471

1

129931

1

D412-702-313

Manufactured

No

110

Each

2.0000

1

2

**

DAS

6

9-89

DAS

27

9-89

D412-702-313

Harness Assy

DAS

28

9-89

Location

Loc Qty

Loc Code

ST468

2

127601

1

129957

1

D412-702-321

Manufactured

No

110

Each

2.0000

1

2

**

APR 14 2015

DAS

6

9-89

DAS

27

9-89

D412-702-321

Harness Assy

DAS

28

9-89

Location

Loc Qty

Loc Code

ST468

2

127905

1

127906

1

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

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Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td></td> </tr> </table>				Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
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OTHER :																					

Picklist Print

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Page 2

Work Order ID: 131197

131197

Parent Item: D412-702-345

D412-702-345

Parent Item Name: Shoulder Harness, 3-Point Att., Inertia Reel Continuous Belt, 4 Man Aft

Start Date: 3/30/15

Required Date: 3/30/15

Start Qty: 2.00

Required Qty: 2.00

D412-702-323

Manufactured No

110

Each

2.0000

1

2

D412-702-323

Harness Assembly

**

DAS
6
9-89

DAS
27
9-89

Location

Loc Qty

Loc Code

ST468

1

127485

1

ST471

1

129847

1

D3572-041

Manufactured No

110

Each

3.0000

2

4

D3572-041

Guide

**

DAS DAS
6 27
9-89 9-89

Location

Loc Qty

Loc Code

ST255

3

127811

3

AN4-16A

Purchased No

110

Each

218.0000

2

4

AN4-16A

Bolt

**

DAS
27
DAS 6
9-89

Location

Loc Qty

Loc Code

FG

5

121541

5

ST325A

9

M131800

9

ST343

204

M128813

4

M132035

200

APR 14 2015

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

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Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td></td> </tr> </table>						Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
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Date :		Step #:		QTY Effective :			MRB (QSI042) Approval																		
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval																	
Root Cause		FAULT CATEGORY																							
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐		Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐		Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐		Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐																	
		OTHER :																							

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Page 3

Work Order ID: 131197

131197

Parent Item: D412-702-345

D412-702-345

Parent Item Name: Shoulder Harness, 3-Point Att., Inertia Reel Continuous Belt, 4 Man Aft

Start Date: 3/30/15

Required Date: 3/30/15

Start Qty: 2.00

Required Qty: 2.00

AN4-25A	Purchased	No	110	Each	26.0000	4	8	DAS 6 27 9-89 9-89
AN4-25A								
Bolt								

DAS 28 9-89

Location	Loc Qty	Loc Code
ST342	26	
m126400	6	
m131305	20	

AN4-27A	Purchased	No	110	Each	35.0000	4	8	DAS 6 27 9-89 9-89
AN4-27A								
Bolt								

DAS 28 9-89

Location	Loc Qty	Loc Code
ST342	35	
m126461	35	

NAS1149D0463J	Purchased	No	110	Each	5,757.000	20	40	DAS 6 27 9-89 9-89
NAS1149D0463.J								
WASHER								

DAS 28 9-89

Location	Loc Qty	Loc Code
GA	41	
M129390	41	
ST269	5716	
M129682	289	
M130799	427	
M132035	5000	

APR 14 2015

DAS 6 27 9-89 9-89

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

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Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								

Picklist Print

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Work Order ID: 131197

131197

Parent Item: D412-702-345

D412-702-345

Parent Item Name: Shoulder Harness, 3-Point Att., Inertia Reel Continuous Belt, 4 Man Aft

Start Date: 3/30/15

Required Date: 3/30/15

Start Qty: 2.00

Required Qty: 2.00

MS21042L4

Purchased

No

110

Each

1,577.000

6

12

MS21042L 4

Locknut

DAS 6
9-89

DAS 27

APR 14 2015

DAS 28
9-88

Location

Loc Qty

Loc Code

FP001

42

m124231

42

GA

574

m127813

574

ST260a

418

m130799

56

m131803

362

ST305

543

426

426

m128300

8

m130922

97

m131618

12

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td></td> </tr> </table>				Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐																		
Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐																		
Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐																		
Large Fab ☐	Composite ☐	Supplier ☐																			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval																	
Description Work Order Deviation		Disposition		Completed By																	
				Lead hand / Supervisor Approval Verification																	
				QC / QA Coordinator Approval																	
Root Cause		FAULT CATEGORY																			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐																
OTHER : _____																					

DART SERVICE INSTRUCTION

TO AMEND INSTALLATION INSTRUCTIONS IIN-D412-702 REV. E AND
INSTRUCTIONS FOR CONTINUED AIRWORTHINESS ICA-D412-702 REV. 3

REF TCCA STC SH04-7
REF FAA STC SR01997NY
REF EASA STC EASA.I.M.R.S.00710

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DATE 10.03.18

This service instruction adds several kits equipped with improved inertia reels:

The Dart **D412-702-341** 13-Man Shoulder Harness Kit provides 3-point harnesses with inertia reels and joined lap and shoulder belts for all 13 passenger seating positions in the aircraft cabin. The kit also contains hardpoints for securing the harnesses. The harnesses for this kit meet the requirements of TSO-C114 and replace the existing lap belts. This kit should be installed similar to the D412-702-041B kit, as detailed in Table 1 of this service instruction.

The Dart **D412-702-343** 5-Man Forward Facing Shoulder Harness Kit provides 3-point harnesses with inertia reels and joined lap and shoulder belts for the 5 forward facing seating positions in the aircraft cabin. The kit also contains hardpoints for securing the harnesses. The harnesses for this kit meet the requirements of TSO-C114 and replace the existing lap belts. This kit should be installed similar to the D412-702-043B kit, as detailed in Table 1 of this service instruction.

The Dart **D412-702-345** 4-Man Shoulder Harness Kit provides 3-point harnesses with inertia reels and joined lap and shoulder belts for the 4 aft facing seating positions in the aircraft cabin. The kit also contains hardpoints for securing the harnesses. The harnesses for this kit meet the requirements of TSO-C114 and replace the existing lap belts. This kit should be installed similar to the D412-702-045B kit, as detailed in Table 1 of this service instruction.

The Dart **D412-702-347** 4-Man Shoulder Harness Kit provides 3-point harnesses with inertia reels and joined lap and shoulder belts for the 4 side facing seating positions in the aircraft cabin. The kit also contains hardpoints for securing the harnesses. The harnesses for this kit meet the requirements of TSO-C114 and replace the existing lap belts. This kit should be installed similar to the D412-702-047B kit, as detailed in Table 1 of this service instruction.

The Dart **D412-702-349** 1-Man Shoulder Harness Kit provides a 3-point harness with an inertia reel and joined lap and shoulder belts for the center forward facing seating position in the aircraft cabin. The kit also contains hardpoints for securing the harness. The harness for this kit meets the requirements of TSO-C114 and replaces the existing lap belts. This kit should be installed similar to the D412-702-049B kit, as detailed in Table 1 of this service instruction.

The Dart **D412-702-351** 1-man 3-point shoulder harness kits are available for the outboard seats of the 5-man forward facing bench in Bell 205/212/214/412 model aircraft. The kit can be installed LH or RH. These kits should be installed similar to the D412-702-051B/-052B kits, as detailed in Table 1 of this service instruction.

The Dart **D214-702-337** 5-Man Aft Facing Shoulder Harness Kit provides 3-point harnesses with inertial reels and joined lap and shoulder belts for the 5-man aft facing seat installed in the Bell 214B/B1 model aircraft. This kit should be installed similar to the D214-702-037B kit, as detailed in Table 1 of this service instruction.

The Dart **D205-702-353** 4-Man Aft Facing Shoulder Harness Kit provides 3-point harnesses with inertial reels and joined lap and shoulder harnesses for the 4-man aft facing seat installed in the UH-1 model aircraft. This kit should be installed similar to the D205-702-053B kit, as detailed in Table 1 of this service instruction.

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AIRCRAFT CERTIFICATION
BRANCH
DAO # 01-O-01

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BY: 
D. SHEPHERD (DE # 02)

DATE: 10.03.22
CERT. NO.: SH04-7
ISSUE NO.: 3

A	NEW ISSUE	CP	10.03.18
REV.	DESCRIPTION	BY	DATE
DESIGN		DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN			
CHECKED		DRAWING NO.	REV. A
MFG. APPR.	N/A	DSI 9511	SHEET 1 OF 6
APPROVED		TITLE	SCALE
DE APPR.		NEW SHOULDER HARNESS KITS	NTS
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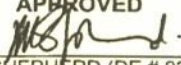
INSTALLATION

The Dart D412-702-3XX kits should be installed similar to the kits in Installation Instructions IIN-D412-702 Rev. E or Dart Service Instruction (DSI) listed below:

TABLE 1

Part Number	Description	Install similar to:
D412-702-341	Shoulder Harness Kit	D412-702-041B (IIN-D412-702, DSI 9408)
D412-702-343	Shoulder Harness Kit	D412-702-043B (IIN-D412-702, DSI 9453 [214], DSI 9408)
D412-702-345	Shoulder Harness Kit	D412-702-045B (IIN-D412-702, DSI 9469)
D412-702-347	Shoulder Harness Kit	D412-702-047B (IIN-D412-702, DSI 9408)
D412-702-349	Shoulder Harness Kit	D412-702-049B (IIN-D412-702, DSI 9408)
D412-702-351	Shoulder Harness Kit	D412-702-051B (LH) (DSI 9397, DSI 9408) D412-702-052B (RH) (DSI 9397, DSI 9408)
D214-702-337	Shoulder Harness Kit	D214-702-037B (DSI 9454)
D205-702-353	Shoulder Harness Kit	D205-702-053B (DSI 9460)
D412-702-301	Harness Assembly	D412-702-101B (IIN-D412-702)
D412-702-303	Harness Assembly	D412-702-103B (IIN-D412-702)
D412-702-305	Harness Assembly	D412-702-105B (IIN-D412-702)
D412-702-307	Harness Assembly	D412-702-107B (IIN-D412-702)
D412-702-309	Harness Assembly	D412-702-109B (IIN-D412-702)
D412-702-311	Harness Assembly	D412-702-111B (IIN-D412-702)
D412-702-313	Harness Assembly	D412-702-113B (IIN-D412-702)
D412-702-315	Harness Assembly	D412-702-115B (IIN-D412-702)
D412-702-317	Harness Assembly	D412-702-117B (IIN-D412-702)
D412-702-319	Harness Assembly	D412-702-119B (DSI 9454)
D412-702-321	Harness Assembly	D412-702-121B (DSI 9454, DSI 9469)
D412-702-323	Harness Assembly	D412-702-123B (DSI 9454, DSI 9469)

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DRAWN	99	HAWKESBURY, ONTARIO, CANADA	
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MFG. APPR.	N/A	DSI 9511	SHEET 2 OF 6
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PARTS LIST

TABLE 2

QTY -341	QTY -343	QTY -345	QTY -347	QTY -349	QTY -351	Part Number	Description
X						D412-702-341	Dart 13-Man 3-Point Shoulder Harness Kit
	X					D412-702-343	Dart 5-Man 3-Point Forward Facing Shoulder Harness Kit
		X				D412-702-345	Dart 4-Man 3-Point Aft Facing Shoulder Harness Kit
			X			D412-702-347	Dart 4-Man 3-Point Side Facing Shoulder Harness Kit
				X		D412-702-349	Dart 1-Man 3-Point Forward Shoulder Harness Kit
					X	D412-702-351	Dart 1-Man 3-Point Shoulder Harness Kit
1	1		1	1		D412-702-059	GROMMET KIT
9	5		4	1	1	D3761-1-041	HOOK AND LOOP STRIP (DSI 9408)
2	1		1			D412-702-301	HARNESS ASSEMBLY (NEW)
1*	1*		1*			D3573-7	ADAPTER
1*	1*		1*			D4088-041	SHOULDER HARNESS (NEW)
4*	4*		4*			MS24693S272	SCREW
4*	4*		4*			AN960JD10LL	WASHER
4*	4*		4*			MS21042L3	NUT
2	1		1			D412-702-303	HARNESS ASSEMBLY (NEW)
1*	1*		1*			D3573-8	ADAPTER
1*	1*		1*			D4088-041	SHOULDER HARNESS (NEW)
4*	4*		4*			MS24693S272	SCREW
4*	4*		4*			AN960JD10LL	WASHER
4*	4*		4*			MS21042L3	NUT
1	1			1		D412-702-305	HARNESS ASSEMBLY (NEW)
1*	1*			1*		D3573-1	ADAPTER
1*	1*			1*		D4088-041	SHOULDER HARNESS (NEW)
4*	4*			4*		MS24693S273	SCREW
4*	4*			4*		AN960JD10LL	WASHER
4*	4*			4*		MS21042L3	NUT
1	1				1	D412-702-307	HARNESS ASSEMBLY (NEW)
1*	1*				1*	D3573-3	ADAPTER
1*	1*				1*	D4088-041	SHOULDER HARNESS (NEW)
4*	4*				4*	MS24693S272	SCREW
4*	4*				4*	AN960JD10LL	WASHER
4*	4*				4*	MS21042L3	NUT
1	1					D412-702-309	HARNESS ASSEMBLY (NEW)
1*	1*					D3573-3	ADAPTER
1*	1*					D4088-041	SHOULDER HARNESS (NEW)
4*	4*					MS24693S272	SCREW
4*	4*					AN960JD10LL	WASHER
4*	4*					MS21042L3	NUT

* denotes that part is included in assembly above

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...continued from previous page

QTY -341	QTY -343	QTY -345	QTY -347	QTY -349	QTY -351	Part Number	Description
1		1				D412-702-311	HARNESS ASSEMBLY (NEW)
1*		1*				D3570-1	BRACKET
1*		1*				D4088-043	SHOULDER HARNESS (NEW)
4*		4*				MS24694S50	SCREW
4*		4*				AN960JD10L	WASHER
4*		4*				MS21042L3	NUT
1		1				D412-702-313	HARNESS ASSEMBLY (NEW)
1*		1*				D3570-2	BRACKET
1*		1*				D4088-043	SHOULDER HARNESS (NEW)
4*		4*				MS24694S50	SCREW
4*		4*				AN960JD10L	WASHER
4*		4*				MS21042L3	NUT
1			1			D412-702-315	HARNESS ASSEMBLY (NEW)
1*			1*			D3573-5	ADAPTER
1*			1*			D4088-041	SHOULDER HARNESS (NEW)
4*			4*			MS24693S272	SCREW
4*			4*			AN960JD10LL	WASHER
4*			4*			MS21042L3	NUT
1			1			D412-702-317	HARNESS ASSEMBLY (NEW)
1*			1*			D3573-5	ADAPTER
1*			1*			D4088-041	SHOULDER HARNESS (NEW)
4*			4*			MS24693S272	SCREW
4*			4*			AN960JD10LL	WASHER
4*			4*			MS21042L3	NUT
1		1				D412-702-321	HARNESS ASSEMBLY (NEW)
1*		1*				D3570-3	BRACKET
1*		1*				D4088-043	SHOULDER HARNESS (NEW)
4*		4*				MS24694S50	BOLT
4*		4*				AN960JD10L	WASHER
4*		4*				MS21042L3	NUT
1		1				D412-702-323	HARNESS ASSEMBLY (NEW)
1*		1*				D3570-4	BRACKET
1*		1*				D4088-043	SHOULDER HARNESS (NEW)
4*		4*				MS24694S50	BOLT
4*		4*				AN960JD10L	WASHER
4*		4*				MS21042L3	NUT

* denotes that part is included in assembly above

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DRAWN	<u>9P</u>	HAWKESBURY, ONTARIO, CANADA	
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...continued from previous page

QTY -341	QTY -343	QTY -345	QTY -347	QTY -349	QTY -351	Part Number	Description
2	2					D3542-1	BRACKET
7	3		4	1		D3571-1	GUIDE
2	2					D3571-3	GUIDE
2		2				D3572-041	GUIDE ASSEMBLY
12	6		6	2		D3578-041	DOUBLER
2	2					D3610-041	BRACKET
2	2					D3618-1	CAP
4	4					AN4-10A	BOLT
2		2				AN4-16A	BOLT
4		4				AN4-25A	BOLT
4		4				AN4-27A	BOLT (DSI 9469)
2	2					AN4-44A	BOLT
2	2					MS24693S274	SCREW
3	3			1		MS24694S56	SCREW
10	2		8			MS24694S58	SCREW
1	1			1		MS24694S60	SCREW
26	6	20				AN960JD416	WASHER
4	4					AN960JD416L	WASHER
12	6	6				MS21042L4	NUT
24	12		12	4		CR3212-4-4	RIVET

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TABLE 3

QTY -337	QTY -353	Part Number	Description
X		D214-702-337	Dart 5-Man 3 Point Aft Facing Shoulder Harness Kit, for 214 Aircraft
	X	D205-702-353	Dart 4-Man 3 Point Aft Facing Shoulder Harness Kit, for UH-1 Aircraft
1	2	D412-702-311	HARNESS ASSEMBLY (NEW) --> SEE TABLE 2
1	2	D412-702-313	HARNESS ASSEMBLY (NEW) --> SEE TABLE 2
1		D412-702-321	HARNESS ASSEMBLY (NEW) --> SEE TABLE 2
1		D412-702-323	HARNESS ASSEMBLY (NEW) --> SEE TABLE 2
1		D412-702-319	HARNESS ASSEMBLY (NEW)
1*		D3925-041	BRACKET
1*		D4088-043	SHOULDER HARNESS ASSEMBLY (NEW)
4*		MS24694S50	BOLT
4*		AN960JD10L	WASHER
4*		MS21042L3	NUT
	1	D3572-043	GUIDE ASSY
	1	D3572-044	GUIDE ASSY
1		D3920-041	SEATBELT GUIDE ASSEMBLY
2		D3920-5	SEATBELT GUIDE
1	6	AN4-16A	BOLT
1		AN4-21A	BOLT
7		AN4-25A	BOLT
18	12	AN960JD416	WASHER
9	6	MS21042L4	NUT

* denotes that part is included in assembly above

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MFG. APPR.	N/A	DSI 9511 SHEET 6 OF 6
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...continued from previous page

QTY -341	QTY -343	QTY -345	QTY -347	QTY -349	QTY -351	Part Number	Description
1		1				D412-702-311	HARNESS ASSEMBLY (NEW)
1*		1*				D3570-1	BRACKET
1*		1*				D4088-043	SHOULDER HARNESS (NEW)
4*		4*				MS24694S50	SCREW
4*		4*				AN960JD10L	WASHER
4*		4*				MS21042L3	NUT
1		1				D412-702-313	HARNESS ASSEMBLY (NEW)
1*		1*				D3570-2	BRACKET
1*		1*				D4088-043	SHOULDER HARNESS (NEW)
4*		4*				MS24694S50	SCREW
4*		4*				AN960JD10L	WASHER
4*		4*				MS21042L3	NUT
1			1			D412-702-315	HARNESS ASSEMBLY (NEW)
1*			1*			D3573-5	ADAPTER
1*			1*			D4088-041	SHOULDER HARNESS (NEW)
4*			4*			MS24693S272	SCREW
4*			4*			AN960JD10LL	WASHER
4*			4*			MS21042L3	NUT
1			1			D412-702-317	HARNESS ASSEMBLY (NEW)
1*			1*			D3573-5	ADAPTER
1*			1*			D4088-041	SHOULDER HARNESS (NEW)
4*			4*			MS24693S272	SCREW
4*			4*			AN960JD10LL	WASHER
4*			4*			MS21042L3	NUT
1		1				D412-702-321	HARNESS ASSEMBLY (NEW)
1*		1*				D3570-3	BRACKET
1*		1*				D4088-043	SHOULDER HARNESS (NEW)
4*		4*				MS24694S50	BOLT
4*		4*				AN960JD10L	WASHER
4*		4*				MS21042L3	NUT
1		1				D412-702-323	HARNESS ASSEMBLY (NEW)
1*		1*				D3570-4	BRACKET
1*		1*				D4088-043	SHOULDER HARNESS (NEW)
4*		4*				MS24694S50	BOLT
4*		4*				AN960JD10L	WASHER
4*		4*				MS21042L3	NUT

* denotes that part is included in assembly above

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CERT. NO.: SH04-7
ISSUE NO.: 3

DESIGN	<i>92</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	<i>92</i>		
CHECKED	<i>[Signature]</i>	DRAWING NO.	REV. A
MFG. APPR.	N/A	DSI 9511	SHEET 4 OF 6
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	NEW SHOULDER HARNESS KITS	NTS
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PARTS LIST

TABLE 2

QTY -341	QTY -343	QTY -345	QTY -347	QTY -349	QTY -351	Part Number	Description
X						D412-702-341	Dart 13-Man 3-Point Shoulder Harness Kit
	X					D412-702-343	Dart 5-Man 3-Point Forward Facing Shoulder Harness Kit
		X				D412-702-345	Dart 4-Man 3-Point Aft Facing Shoulder Harness Kit
			X			D412-702-347	Dart 4-Man 3-Point Side Facing Shoulder Harness Kit
				X		D412-702-349	Dart 1-Man 3-Point Forward Shoulder Harness Kit
					X	D412-702-351	Dart 1-Man 3-Point Shoulder Harness Kit
1	1		1	1		D412-702-059	GROMMET KIT
9	5		4	1	1	D3761-1-041	HOOK AND LOOP STRIP (DSI 9408)
2	1		1			D412-702-301	HARNESS ASSEMBLY (NEW)
1*	1*		1*			D3573-7	ADAPTER
1*	1*		1*			D4088-041	SHOULDER HARNESS (NEW)
4*	4*		4*			MS24693S272	SCREW
4*	4*		4*			AN960JD10LL	WASHER
4*	4*		4*			MS21042L3	NUT
2	1		1			D412-702-303	HARNESS ASSEMBLY (NEW)
1*	1*		1*			D3573-8	ADAPTER
1*	1*		1*			D4088-041	SHOULDER HARNESS (NEW)
4*	4*		4*			MS24693S272	SCREW
4*	4*		4*			AN960JD10LL	WASHER
4*	4*		4*			MS21042L3	NUT
1	1			1		D412-702-305	HARNESS ASSEMBLY (NEW)
1*	1*			1*		D3573-1	ADAPTER
1*	1*			1*		D4088-041	SHOULDER HARNESS (NEW)
4*	4*			4*		MS24693S273	SCREW
4*	4*			4*		AN960JD10LL	WASHER
4*	4*			4*		MS21042L3	NUT
1	1				1	D412-702-307	HARNESS ASSEMBLY (NEW)
1*	1*				1*	D3573-3	ADAPTER
1*	1*				1*	D4088-041	SHOULDER HARNESS (NEW)
4*	4*				4*	MS24693S272	SCREW
4*	4*				4*	AN960JD10LL	WASHER
4*	4*				4*	MS21042L3	NUT
1	1					D412-702-309	HARNESS ASSEMBLY (NEW)
1*	1*					D3573-3	ADAPTER
1*	1*					D4088-041	SHOULDER HARNESS (NEW)
4*	4*					MS24693S272	SCREW
4*	4*					AN960JD10LL	WASHER
4*	4*					MS21042L3	NUT

* denotes that part is included in assembly above

continued next page...

CANADA
DEPARTMENT OF TRANSPORT
AIRCRAFT CERTIFICATION
BRANCH
DAO # 01-O-01

APPROVED

BY: 
D. SHEPHERD (DE # 02)

DATE: 10.03.22
CERT. NO.: SH04-7
ISSUE NO.: 3

DESIGN	99	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	99		
CHECKED		DRAWING NO.	REV. A
MFG. APPR.	N/A	DSI 9511	SHEET 3 OF 6
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DE APPR.		NEW SHOULDER HARNESS KITS	NTS
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...continued from previous page

QTY -341	QTY -343	QTY -345	QTY -347	QTY -349	QTY -351	Part Number	Description
2	2					D3542-1	BRACKET
7	3		4	1		D3571-1	GUIDE
2	2					D3571-3	GUIDE
2		2				D3572-041	GUIDE ASSEMBLY
12	6		6	2		D3578-041	DOUBLER
2	2					D3610-041	BRACKET
2	2					D3618-1	CAP
4	4					AN4-10A	BOLT
2		2				AN4-16A	BOLT
4		4				AN4-25A	BOLT
4		4				AN4-27A	BOLT (DSI 9469)
2	2					AN4-44A	BOLT
2	2					MS24693S274	SCREW
3	3			1		MS24694S56	SCREW
10	2		8			MS24694S58	SCREW
1	1			1		MS24694S60	SCREW
26	6	20				AN960JD416	WASHER
4	4					AN960JD416L	WASHER
12	6	6				MS21042L4	NUT
24	12		12	4		CR3212-4-4	RIVET

CANADA
DEPARTMENT OF TRANSPORT
AIRCRAFT CERTIFICATION
BRANCH
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DESIGN	92	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA
DRAWN	92	
CHECKED		DRAWING NO. REV. A
MFG. APPR.	N/A	DSI 9511 SHEET 5 OF 6
APPROVED		TITLE SCALE
DE APPR.		NEW SHOULDER HARNESS KITS NTS
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